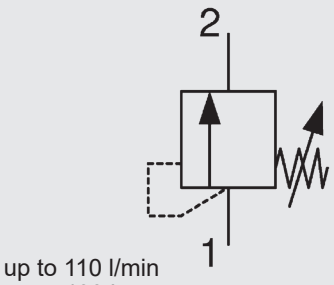


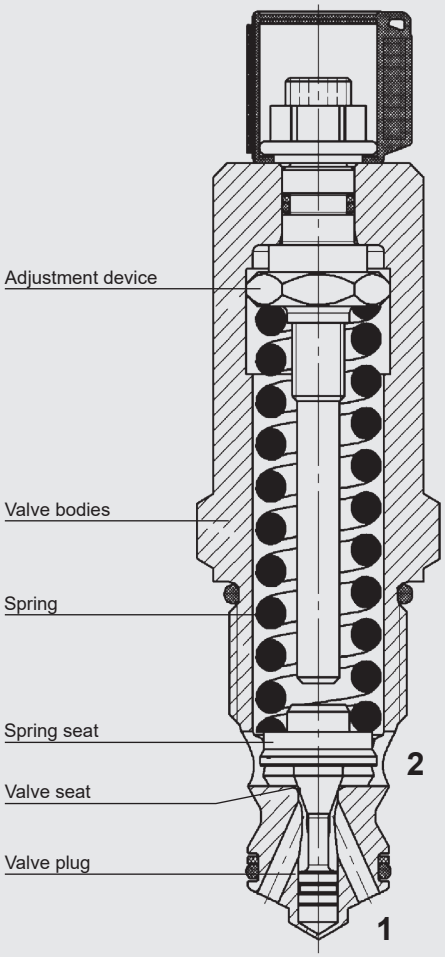
up to 110 l/min
up to 400 bar

Safety valve

DB12120A-701-CE
DB12120A-701-UKCA

For Polyglycol-water solution, Group HFC
poppet type, direct-acting,
cartridge valve, metric – 400 bar

FUNCTION



PRODUCT ADVANTAGES

- Low hysteresis and accurate pressure control
- Excellent stability throughout the entire flow range
- Various pressure ranges up to 400 bar
- External surfaces with advanced corrosion protection thanks to ZnNi coating (1,000 h salt spray test)

DESCRIPTION OF FUNCTION

The safety valve is rated on the basis of its opening characteristics in accordance with AD 2000 as a standard relief valve. The design corresponds to that of a direct-acting, spring-loaded safety valve.

With approval for the European market and the UK

- EU: in acc. with PED 2014/68/EU and type approval test in acc. with Vd-TÜV
- GB: in acc. with PE(S)R 2016

The compression spring exerts a force on the closing poppet and presses it onto the valve seat. If the hydraulic pressure is below the pre-set spring force, the valve is closed. Only if the hydraulic force exceeds the pre-set spring force does the valve open and flow is diverted to the tank via port 2. This continues until the pressure force drops below the spring force and the valve closes again.

To do so, it is essential to refer to the operating manual supplied with the product.

Summary of key points:

- No oil accumulation or pressure build-up permitted in the tank connection (port 2) (in acc. with DIN EN ISO 4126-1)
- If the safety valve is connected to the wrong connections, it will not work as intended, i.e. will not work as a safety valve.
- The pressure setting configured before delivery must not be altered
- The valve must not be disassembled

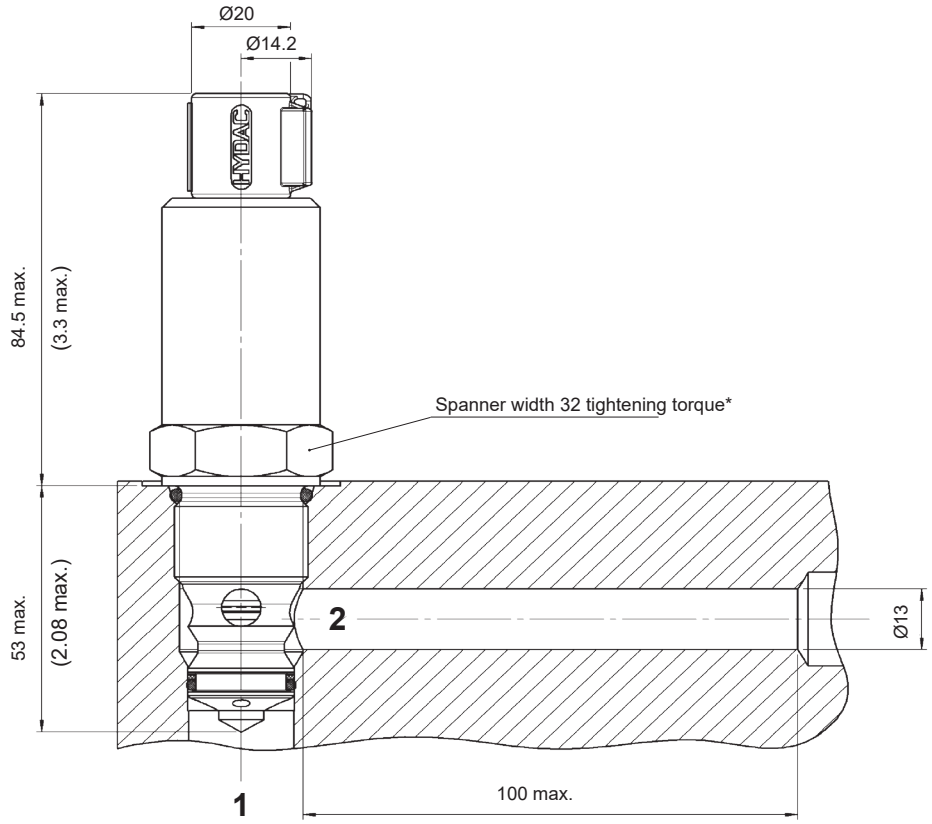
TECHNICAL CHARACTERISTICS[1)]

Operating pressure	Port 1: max. 400 bar Port 2: depressurised
Operating pressure range	30 to 400 bar
Flow rate	max. 110 l/min (depending on pressure range – see table “Permitted flow rate”)
Temperature range of pressure fluid	min. -20 °C to max. +80 °C
Ambient temperature range	min. -20 °C to max. +80 °C
Pressure fluid	Polyglycol-water solution – Group HFC (see DIN 51502/DIN EN ISO 6743-4)
Viscosity range	Min. 8 mm²/s to max. 230 mm²/s or 350 mm²/s (see table “Permitted flow rate”)
Filtration	Permitted operating fluid contamination level according to ISO 4406 Class 21/19/16 or higher
Installation position	user definable
Materials	Valve bodies: Steel Closing element: Steel, hardened and ground Seals: NBR Back-up rings: PTFE
$MTTF_D$	Not applicable, assessed to PED, already rated as Cat. IV
Cavity	12120A
Weight	0.42 kg

PERMITTED FLOW RATE

Range for cracking pressure [bar]	Max. flow rate [l/min]:	Max. viscosity [mm²/s]
30 - 35	4.5	230
36 - 39	15	
40 - 49	72	
50 - 90	80	
91 - 99	100	
100 - 400	110	
150 - 400	110	350

UNIT DIMENSIONS

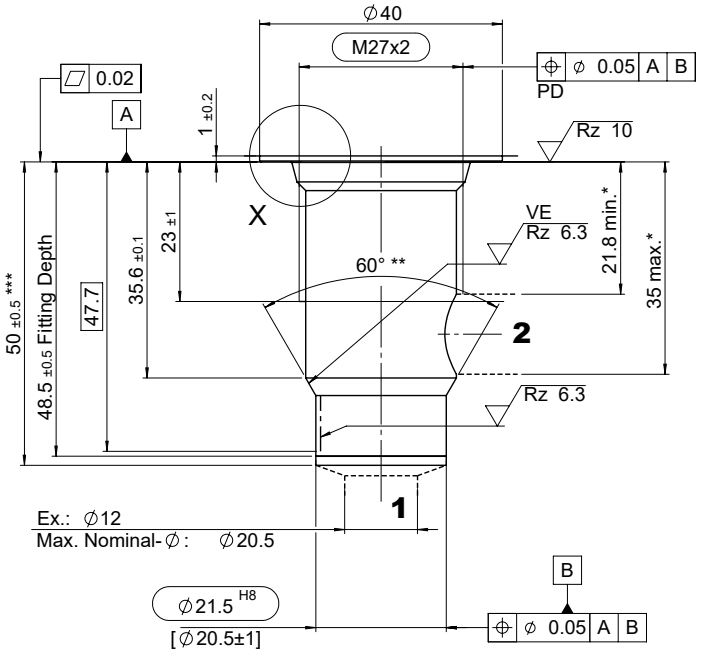


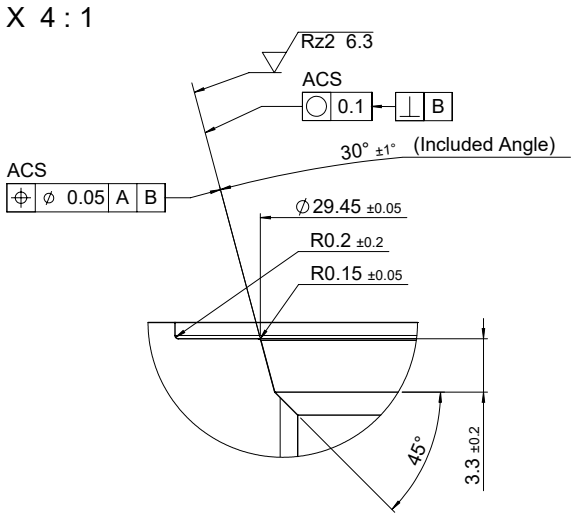
* Tightening torque:
Steel housing (tensile strength > 360 N/mm²): 65 Nm
Aluminium housing (tensile strength > 330 N/mm²): 55 Nm
(With torque tool according to DIN EN ISO 6789, tool type II class A or B).

Millimetre (inch)
Subject to technical modifications.

CAVITY

12120A





VE = Optical Examination

Ra 6.3 (Rz 6.3 Rz 10)

* Permitted boring zone (for block design).
** Sharp edges should be avoided by using a radius of 0.1 mm to 0.2 mm
*** Largest pre-drilling diameter (nominal tool diameter).

Millimetre
Subject to technical modifications.

MODEL CODE

DB12120A – 70 1 – CEXXXX.ENISO4126.6L. XXX. XXX

Description
Safety valve

Version
70 = for pressure fluid HFC

Version number
Determined by manufacturer

Type approval code
XXXX stands for the identification number of the notified body and CE to EN ISO 4126

Max. permitted flow rate
080 = 80 l/min
Rate depends on the pressure range (see table “Permitted flow rate”)

Cracking pressure setting
230 = 230 bar, factory-adjusted cracking pressure (see table “Permitted flow rate”
Note: Cracking pressure can be adjusted in 5 bar increments, e.g.: … 95; 100; 105 … bar

TYPE APPROVAL CODE (only valid for EU)

TÜV.SV.XX-981.6.F. XXX. XXX

Type approval code

Year of type approval test

Flow rate [l/min]

Cracking pressure [bar]

UKCA MARKING

DB12120A-70 X - UKCA0168.6L . XXX . XXX

Designation
Safety valve

Version number

Type approval code
UKCA and notified body

Flow rate [l/min]

Cracking pressure [bar]

DOCUMENTATION

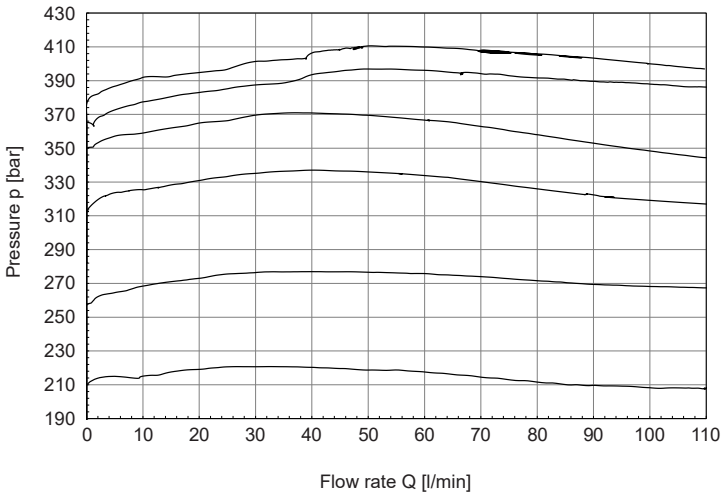
The following documents are enclosed with every valve:

- Operating instructions
- Declaration of conformity
- Conformity certificate

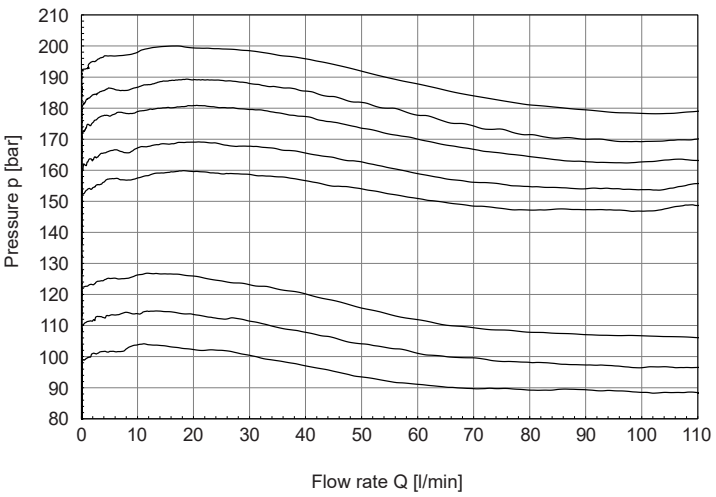
SAMPLE CHARACTERISTICS

The sample characteristics are for a HLP 32 oil and an oil temperature of 40 °C. The sample flow ranges are greater because of the lower viscosity. The max. permitted flow rate depends on pressure and viscosity.

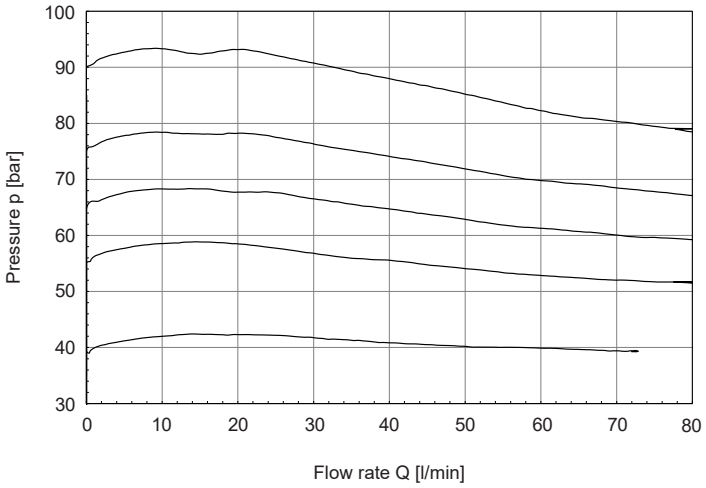
p/Q characteristic measured at ν = 32 mm²/s, T_{Oil} = 40 °C
Cracking pressure 210 / 260 / 320 / 350 / 365 / 380



p/Q characteristic measured at ν = 32 mm²/s, T_{Oil} = 40 °C
Cracking pressure 100 / 110 / 120 / 150 / 160 / 170 / 180 / 190



p/Q characteristic measured at ν = 32 mm²/s, T_{Oil} = 40 °C
Cracking pressure 40 / 55 / 65 / 75 / 90



MATERIAL OVERVIEW

Standard models

Designation	Part no.
DB12120A-701-CEXXXX.ENISO4126.6L.080.070	4502119
DB12120A-701-CEXXXX.ENISO4126.6L.110.210	4490116
DB12120A-701-CEXXXX.ENISO4126.6L.110.220	4614098
DB12120A-701-CEXXXX.ENISO4126.6L.110.230	4537307
DB12120A-701-CEXXXX.ENISO4126.6L.110.240	4529764
DB12120A-701-CEXXXX.ENISO4126.6L.110.250	4588487
DB12120A-701-CEXXXX.ENISO4126.6L.110.260	4480359
DB12120A-701-CEXXXX.ENISO4126.6L.110.330	4490117

Other versions on request.

Spare parts, seal kits

Designation	Material	Part no.
FS METRIC 121..A/V	NBR	3651609

Accessories, form tools

Designation	Part no.
Countersink	173958
Reamer	174874
Screw tap	1002625

Inline connection housing

Designation	Material	Connections	Pressure	Part no.
R12120A-01X-01	Steel, zinc-plated	G 3/4"	400 bar	396489

COMMENT

The information in this brochure relates to the operating conditions and applications described. For applications and operating conditions not described, please contact the relevant technical department.

Subject to technical modifications.

Documents are only valid if they have been obtained via the website and are up-to-date.

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